

Appl. No. 10/065,768  
Amdt. dated May 19, 2005  
Reply to Office action of February 23, 2005

### Amendments to the Claims

#### Listing of Claims:

- 5 Claim 1 (currently amended): A method for using an optical disc drive to manage data on an optical disc, the optical disc comprising a defect table and a plurality of data blocks for recording data, each of the data blocks having a corresponding unique address, the defect table comprising at least one entry, each of the entries being used to record the address of a corresponding defective data block on the optical disc, and the optical disc drive comprising a memory, the memory comprising a plurality of memory areas, each of the memory areas being used to store one of the entries, wherein when the optical disc drive writes data onto the optical disc, the optical disc drive is capable of detecting the defective data blocks of the optical disc, the method comprising:
- 10 allocating at least one first memory area in the memory, and storing a corresponding entry of the defect table in each of the first memory areas; and storing the address of a first data block of the optical disc in an original second memory area of the memory before data is written in the first data block if the first data block is defective and if there is at least one address, which is greater than the address of the first data block, recorded in the defect table, wherein the second memory area is different from the first memory area; and
- 15 during a data write-in operation, preserving an initial order of the first memory areas in the memory when the address of the first data block is stored into the second memory area.
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- 25 Claim 2 (currently amended): The method of claim 1 wherein when the address of the first data block is stored in the second memory area, a number of times needed to

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modify the entries stored in the first memory areas is less than a number of the entries in the defect table having addresses, the entries being included in the defect table and all of the addresses the entries record being greater than the address of the first data block.

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Claim 3 (original): The method of claim 1 further comprising: storing the address of a second data block of the optical disc in another second memory area when the second data block is defective.

10 Claim 4 (original): The method of claim 3 further comprising: restoring the address of the first data block in another second memory area and releasing the original second memory area if the address of the second data block is less than the address of the first data block.

15 Claim 5 (currently amended): The method of claim 1 further comprising:

When the optical disc drive stops writing data onto the optical disc, storing an address stored in a first memory area into another memory area of the memory if the address of the first data block stored in the second memory area is less than the address stored in the first memory area ~~restoring the address of the first data block from the second memory area to another memory area of the memory before the optical disc drive stops writing data onto the optical disc if the address stored in the second memory area is less than the address stored in the first memory area.~~

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25 Claim 6 (original): The method of claim 1 further comprising: updating the defect table according to the addresses stored in the first memory areas and the second memory area, and writing the updated defect table in the optical disc before the optical disc

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drive stops writing data onto the optical disc.

5      Claim 7 (original): The method of claim 1 wherein the data blocks and the defect table  
are established according to a specification of CD-MRW (Compact Disc - Mount  
Rainier reWritable).

10      Claim 8 (original): The method of claim 1 wherein the optical disc further comprises a  
plurality of spare data blocks for recording data, which are prepared for the  
defective data areas, each of the spare data blocks has a corresponding address, and  
each of the entries of the defect table is also used to record the address of a  
corresponding spare data block.

15      Claim 9 (currently amended): A method for using an optical disc drive to manage data on  
an optical disc, the optical disc comprising a defect table and a plurality of data  
blocks for recording data, each of the data blocks having a corresponding unique  
address, the defect table comprising at least one entry, each of the entries being  
used to record the address of a corresponding defective data block on the optical  
disc, and the optical disc drive comprising a memory, the memory comprising a  
first memory area and a second memory area capable of storing a plurality of the  
20      entries, wherein when the optical disc drive writes data onto the optical disc, the  
optical disc drive is capable of detecting the defective data blocks of the optical disc,  
the method comprising:  
storing the defect table in the first memory area;  
storing the address of a first data block in the second memory area before data is  
25      written in the first data block if the first data block is defective;  
storing the address of a second data block in the second memory area and sorting  
the addresses both of the first data block and the second data block if the

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second data block is defective; and  
when the optical disc drive stops writing data onto the optical disc, sorting the addresses  
both of the first data block and the second data block according to the sorting  
order of the defect table stored in the first memory area, and updating the  
5 defect table according to the sorted address stored in the memory ~~before if the~~  
~~optical disc drive stops writing data onto the optical disc.~~

Claim 10 (original): The method of claim 9 wherein the data blocks and the defect table  
are established according to a specification of CD-MRW (Compact Disc - Mount  
10 Rainier reWritable).

Claim 11 (original): A method for using an optical disc drive to manage data on an optical  
disc, the optical disc comprising a defect table and a plurality of data blocks for  
recording data, each of the data blocks having a corresponding unique address, the  
defect table at least recording the address of a corresponding defective data block  
15 on the optical disc, and the optical disc drive comprising a memory having a first  
memory area and a second memory area, wherein when the optical disc drive writes  
data onto the optical disc, the optical disc drive is capable of detecting the defective  
data blocks of the optical disc, the method comprising:

storing the defect table in the first memory area;  
20 storing the addresses of the defective data blocks, which are detected by the optical  
disc drive while the optical disc drive writes data onto the optical disc, in the  
second memory area, and sorting the addresses stored in the second memory  
area; and

when the optical disc drive stops writing data onto the optical disc, combining the  
25 addresses of the defect table stored in the first memory area with the addresses  
stored in the second memory area so as to update the defect table, and  
writing the updated defect table in the optical disc ~~before the optical disc drive~~

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~~steps writing data onto the optical disc.~~

Claim 12 (original): The method of claim 11 wherein the data blocks and the defect table  
are established according to a specification of CD-MRW (Compact Disc - Mount  
5 Rainier reWritable).